## SCH3U – Gas Chemistry: RAFT. Assignment

Purpose

The purpose of this assignment is to help deepen your awareness and understanding of the ways in which Gas Chemistry in important in our everyday lives. You will demonstrate your understanding of the concepts that describe how gases behave by use of a RAFT. The instructions and timelines are detailed below and you will do this with a partner (assigned randomly)

In order to meet the expectations you must include the following information:

* Identify and research the item marked in “italics” in the your Topic Section
* Make connections between science, technology, society, and the environment

You may use any of the following resources to help you: textbooks, class notes, library databases, class website and the Internet.

**Directions:**

1. When reading the chart, make sure you read it going **across by rows**.
2. The first column is identified as the **“Role”**, which is the character you will become and pretend to be when you are completing the task. Select a role that interests you.
3. The second column is the **“Audience”**, which is to whom the character will direct the information at.
4. The third column is the **“Format”**, which is the platform in which you will express the information.
5. The fourth column is the **“Topic”**, which includes the questions you need to answer when demonstrating your learning.

1. Circle the **“Role”** that you plan on doing. Decide what materials you’ll need (digital camera, computer, poster, paper, etc.)
2. After you select your **“Role”** you will be given one week to research, learn & create according to the RAFT of your choosing
3. On the day that the assignment is due (15th Jan) you will have a total of 5 – 8 minutes to present your project to the class. You are expected to come to class prepared to begin immediately, to finish within the set timeframe, to convey understanding of the topic in question & to be creative.

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| RAFT Assignment | | | | | | | |
| **Role** | | **Audience** | **Format** | | **Topic** | | |
| Montgolfier Brothers (Scientists/Inventors) | | Financial Backers | Sales Pitch/Info Session | | How will your new invention – *The Hot Air Balloon* – revolutionise travel?  What gas laws will be used to ensure that the balloon works safely?  Is there any safety considerations involved? | | |
| Detective | | Grade 11 High School Students | “Wanted” Digital Poster | | Give an explanation of what *Absolute Zero* is.  Why is Absolute Zero such an elusive & prized target?  What has been done to “catch” this up to now? What would we see at absolute zero? | | |
| Magician | | Spellbound audience at a magic show…or science centre | Live Demo or Video | | Provide a visual demonstration of at least one of the *Gas Laws*. Explain thoroughly why your trick works according to the laws. | | |
| Gas Molecules (with superhero tendencies) | | Superhero Fans | Skit/Comic Book | | *Kinetic Molecular Theory -*  How do the characteristics of gas molecules change when certain factors are changed? How have these powers of transformation been used for the greater good of society? Is there any examples of rogue gases which can damage society under certain conditions | | |
| Consultant | | Ontario Provincial Government | Program Assessment | | *Ontario’s Drive Clean Program* – What is the program & why was it introduced? Provide analysis on the effectiveness of the program. Compare to other similar initiatives around the world | | |
| Nitrogen Dioxide | | Mother Nature | Letter of Apology | | Explain, referencing research data, why an apology is required. Where did all of this nitrogen dioxide come from? Is NO2 solely to blame? What is being done to lessen the *environmental impact of NO2*? | | |
| Category | | Level 1  (50-59%) | | | Level 2  (60-69%) | | Level 3  (70-79%) | Level 4  (80-100%) | |
| Knowledge 40%  -Knowledge of gas law principles, uses and applications in industry, society, and the impacts on the society | | -demonstrates limited knowledge of gas law principles, uses and applications in industry, society, and the impacts on the society | | | -demonstrates some knowledge of gas law principles, uses and applications in industry, society, and the impacts on the society | | -demonstrates considerable knowledge of gas law principles, uses and applications in industry, society, and the impacts on the society | -demonstrates thorough knowledge of gas law principles, uses and applications in industry, society, and the impacts on the society | |
| Thinking 20%  -Use of analytical thinking skills and processes in the analysis of the ways in which the person’s work relates to chemical systems and equilibrium  -Investigate a variety of careers associated with Chemistry | | -uses limited analytical thinking skills and processes in the analysis of the ways in which the individual’s work relates to chemical systems and equilibrium  -demonstrates limited investigation of careers associated with Chemistry | | | -uses some analytical thinking skills and processes in the analysis of the ways in which the individual’s work relates to chemical systems and equilibrium  -demonstrates some investigation of careers associated with Chemistry | | -uses considerable analytical thinking skills and processes in the analysis of the ways in which the individual’s work relates to chemical systems and equilibrium  -demonstrates considerable investigation of careers associated with Chemistry | -uses thorough analytical thinking skills and processes in the analysis of the ways in which the individual’s work relates to chemical systems and equilibrium  -demonstrates thorough investigation of careers associated with Chemistry | |
| Communication  25%  -Expression and organization of information, and analysis in pre-selected R.A.F.T. format | | -expresses and organizes information, and analysis in pre-selected R.A.F.T. format with limited degree of clarity and focus | | | -expresses and organizes information, and analysis in pre-selected R.A.F.T. format with some degree of clarity and focus | | -expresses and organizes information, and analysis in pre-selected R.A.F.T. format with considerable degree of clarity and focus | -expresses and organizes information, and analysis in pre-selected R.A.F.T. format with a high degree of clarity and focus | |
| Application  15%  -Makes connections between science, technology, society and the environment | | -makes limited connections between science, technology, society and the environment | | | -makes some connections between science, technology, society and the environment | | -makes considerable connections between science, technology, society and the environment | -makes a high degree of connections between science, technology, society and the environment | |